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<p>(21) International Application Number: PCT/US99/16242 (22) International Filing Date: 16 July 1999 (16.07.99) (30) Priority Data: 60/093,219 17 July 1998 (17.07.98) US (71) Applicant (for all designated States except US): EMORY UNIVERSITY [US/US]; 1380 South Oxford Road, Atlanta, GA 30322 (US). (72) Inventor; and (75) Inventor/Applicant (for US only): SHAFER, David, A. [US/US]; 245 Danbury Lane, Atlanta, GA 30327 (US). (74) Agents: PRATT, John, S. et al.; Kilpatrick Stockton LLP, Suite 2800, 1100 Peachtree Street, Atlanta, GA 30309-4530 (US).</p>		<p>(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With a revised version of the international search report. With amended claims.</i> (88) Date of publication of the revised version of the international search report: 13 July 2000 (13.07.00)</p>
<p>(54) Title: METHODS FOR DETECTING AND MAPPING GENES, MUTATIONS AND VARIANT POLYNUCLEOTIDE SEQUENCES (57) Abstract The present invention includes a number of related designs for gene probe components, multilinking components and signaling components, all of which are modular in nature and can be used together or in part. These components are generally joined together in composite structures by hybridization of complementary sub-segments, called linkers. The reporters of the present invention are also designed to be conjoined into arrays that can provide amplified signaling. The multilinking components of the present invention may be interposed between the probe and the reporter units and provide for the binding of multiple reporters. These probe and signaling methods also include means to achieve mixed-color labeling that is specific to each target. The present invention is useful for detecting target sequences in a wide variety of formats including, but not limited to, membrane formats, in situ formats, and on various solid substrate chip formats.</p>		